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of Engineers®

HEADQUARTERS

ENGINEERING & CONSTRUCTION NEWS

VOLUME II NUMBER 10

JULY 2000

JULY'S THEME:

Young Engineers, Scientists, and Architects Forum

DWIGHT'S NOTES

The theme for this issue is "Young Engineers, Scientists and Architects Forum". We have included articles by and about young professionals. The perspectives and talent that new careerists bring to the Corps is the source of our continued renewal. In order to groom our new people to be tomorrow's leaders we need to work with them day by day, not just during orientation. Some outstanding senior managers at MSC and district have developed programs to support the interests of our young engineers, scientists and architects.

The Corps is also bringing in people with a wider array of disciplines to meet the broad set of challenges we face in our diverse missions. For example, observe the theme we have in our banner for this issue. Had we published this issue a few years ago, it would have been titled simply: "Young Engineers Forum". The technical strength of the Corps today, though, is not only engineers. We employ a wide array of architects, scientists and other professionals, as well, all of whom need individual attention.

On July 19th I visited the new Peter Kewitt Institute (PKI) at the University of Nebraska at Omaha. PKI is not only a state-of-the-art learning institution; it is a true partnership between the private sector and academia. Students at PKI learn the fundamentals of information technology, civil engineering, construction management, and architect-engineering and they link up with top U.S. firms to demonstrate real time applications of their knowledge. The Omaha District and the SAME Omaha Post are working with PKI to establish a student mentoring program and to explore establishing a permanent presence at the university to promote two-way learning.

I encourage every district to seek opportunities to partner with local universities more intimately and holistically than we have done in the past. Districts can take a cue from our laboratories, which do this very well. Colleges and universities are more than a source of new talent; they are the sources of future technology and thinking.

On another note, the restructuring of HQUSACE was effective 17 July. Engineering and Construction Division is now a "corporate" organization responsible for all the Corps engineering, construction and environmental technical doctrine. E&C employees are working diligently to get all the bugs worked out in what promises to be a highly effective future directed headquarters team. To assist you in

DWIGHT'S NOTES (CONTINUED)

understanding our new division, I have asked the senior managers in the Division to write the theme articles for the next several issues of E&C News. In the meantime, please take the opportunity to talk to, email, or meet the people of the "new" E&C.

Dwight

(Editors' note: If you want to share your thoughts with our readers regarding Dwight's Notes send an email to the E&C News editor (charles.pearre@usace.army.mil). A synopsis of your comments will be published in the next issue.)

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Young Engineers, Scientists, and Architects Forum

FLEXIPLACE MAKES IT EASIER TO BALANCE WORK AND FAMILY LIFE: AN EMPLOYEE'S VIEWPOINT

I have been fortunate enough to be able take advantage of Baltimore District's flexiplace policy, and have found it to fit well into my life. With flexiplace, I am able to do part of my work at my home office instead of commuting to the District every day. By eliminating my commute downtown on my flexiplace days, it allows me more time for my family.

I see the flexiplace program as being better for my District because it leads to more satisfied, more productive employees. They are more effective in accomplishing many technical tasks because they can do their job without the distractions and interruptions of the office. Flexiplace employees often need to take less time off because they are using less personal time commuting.

Flexiplace is not as easy as it looks. It requires a strong commitment from the employee and employer. They both sign a contract laying out their responsibilities. To make it work best, the employee should have an appropriate work area where they will not be distracted, must have an extra phone line or a beeper so they can be reached while on-line, and parents of young children must still have daycare arrangements. Trust by both the employer and employee is the key, and neither must do anything to compromise that trust. The employee must be willing to go the extra mile, including being flexible if they are needed in the office when they had planned to be at home. But one of the biggest benefits has to be knowing that you can grab leftovers from the fridge for lunch – instead of that tub of yogurt you grabbed on your way out of the door in the morning!

Flexiplace isn't for everyone doing every job. But, if you do a lot of work independently, without constant input and interaction from others you may be a candidate. If you and your boss are willing to make the commitment and put forth the necessary effort, and you want the additional flexibility in your life, consider flexiplace. It's another way the Corps can continue to attract and retain motivated, quality employees in the highly competitive environment of the 21st century.

(Lori K. Bank, Hydraulic Engineer, H&H Section, Engineering Division, Baltimore District wrote this article.)

POC: LORI K. BANK, CENAB-EN-GH, 410-962-4842

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USE OF FLEXIPLACE: A SUPERVISOR'S PERSPECTIVE

I was initially concerned, as most supervisors probably would be, when it was announced in August 1998 that the Baltimore District, Engineering Division would be participating in a pilot program to allow personnel to work at a flexiplace location on either a regular and recurring or intermittent (job-specific) basis. I anticipated a large percentage of the H&H Section staff may want to work at a flexiplace location almost every day, instead of coming into the office. I was fearful of the potential

problems of coordinating the work of those staff members working at a flexiplace location with other members of study teams that were working in the office.

Currently only one H&H staff member is working at a flexiplace location on a regular and recurring schedule. Almost all of the remaining H&H Section staff members have worked at a flexiplace location on an intermittent (job-specific) basis. Despite my initial concerns, I have fully supported the participation of the H&H Section staff members in the flexiplace pilot program.

For the H&H staff member that is working at a flexiplace location on a regular and recurring schedule, I believe that it allows the staff member an opportunity to more easily continue a career in the field of hydraulic engineering while attending to family responsibilities. The staff member has displayed the discipline to organize their work schedule to maximize the efficient use of time spent at both their flexiplace location and in the office. In addition, the staff member has shown flexibility in adjusting their schedule to be in the office for important study team coordination meetings and to participate in field trips when necessary.

H&H staff members that have worked at a flexiplace location on an intermittent basis have utilized the time spent at their flexiplace location to concentrate their attention on a project for a day or two at a time. H&H Section staff members have found that they can get more work accomplished in a day worked at their flexiplace location than if they come into the office. They can avoid the multiple distractions that occur on a regular basis in the office environment. With the use of e-mail and voice mail, staff members can be reached when necessary. Staff members can also work extra hours on scheduled off days, if necessary to accomplish pressing work, without the need to commute to the office.

After almost two years of the flexiplace pilot program, I believe that both employees and the organization have gained significant benefits from the program. Employees that work at a flexiplace location on either a regular and recurring or intermittent basis are able to avoid the time required to commute to the office, which allows those hours to be used for other purposes, such as family responsibilities, doctor appointments, etc. Employees have an opportunity to utilize a flexiplace location to allow them to concentrate on their work and maximize their efficiency to expedite completion of the work. By providing employees the opportunity to work at a flexiplace location, the organization may be able to attract or retain an employee who cannot commute to work each day because of other responsibilities. In addition, the opportunity to work at a flexiplace location may improve the morale of employees, which can be of great benefit to the organization.

(Dennis C. Seibel, Chief, H&H Section, Engineering Division, Baltimore District wrote this article.)

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YOUNG ARCHITECTS AND ENGINEERS AT TRANSATLANTIC PROGRAMS CENTER

Young Architects and Engineers make meaningful contributions at Transatlantic Programs Center.

Whether taking the lead in developing a safe waiting area for U.S. troops at the Kuwait International Airport or escorting senior military officers around a new army base under construction, young architects and engineers at Transatlantic Programs Center get an early taste of real world, meaningful work assignments.

Amanda Benes, a young architect and recent intern program graduate, has taken on the lead for the design of a hardened underground passenger terminal for U.S. troops awaiting transportation in Kuwait. With the assistance of experienced designers and the Omaha Center of Expertise for force protection issues, the hardened facility will provide a safe haven for our troops, and offer protection against terrorist attacks while they process in or out of Kuwait

Benes is enthusiastic about this opportunity. "I am making a meaningful contribution to the safety of our soldiers in Kuwait as well as gaining first hand experience in the architectural development of the project," she said.

Dan Foltz, a young electrical engineer, recently completed an extended temporary duty assignment at the Arifjan army base under construction in Kuwait. Foltz has been involved from the ground up as this new army base has literally risen out of the sand. The base will provide permanent support facilities for our troops in Kuwait, replacing temporary facilities that have been used since the Gulf War.

"This high visibility project attracts the attention of various senior officials and I enjoy the opportunity to share the details of the project with them," Foltz said.

Kuwait isn't the only overseas location offered by the Transatlantic Programs Center to its young architects and engineers. There are a variety of projects in Egypt drawing the interest of our young professionals. David Loi, civil engineer, recently returned from an extended temporary duty assignment at a major air force base expansion between Cairo and Alexandria. Not only did he serve as a project engineer for the construction of several facilities at the base; he also had the chance to see some of the world's best-known landmarks and attractions for travelers.

Jason Foltyn, a young civil engineer, wanted more than temporary duty for his overseas opportunities. Foltyn took a permanent position at Transatlantic Center's multi-year MCA program in Qatar. At this new base, he follows projects as they come out of the ground through checking warranty issues with the base operations and maintenance contractor.

"I've learned to adapt and be flexible in dealing with international contractors," he said. "I've also learned a lot about the culture, language and habits of people from around the world."

Highlighting some of his experiences, Foltyn added, "I've met with ambassadors, former President Bush, and the U.S. Central Command commander in chief." This, combined with his travel to Bahrain, Dubai, Rome, Bangkok and Maldives, has proved to be a richly rewarding experience for this young civil engineer.

The Transatlantic Programs Center team is proud of its young architects and engineers. "We offer meaningful growth assignments, and these young architects and engineers respond with enthusiasm," said Chris Hinton-Lee, Transatlantic Programs Center Technical Director. "It's a win-win situation -- good for the organization, good for the young professional, and good for the support of our country. Essayons!"

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YOUNG ARCHITECTS AT HUNTSVILLE ENGINEERING CENTER

Patricia DeNune is one of the leading young design professionals that the Civil-Structures Division has managed to attract. Architectural Branch has retained Patricia DeNune by assigning her some of the more interesting building types inherent in our major programs.

Pat received her Bachelor of Architecture, University of Houston, Texas in 1990. Pat's minor was in Healthcare Design and Computer Drawing Applications 2D and 3D. Architect DeNune sharpened her health care expertise at Nursing School-Houston Baptist University, Houston, Texas. DeNune's experience with Microstation 2D, 3D, 'Project Architect' has been a critical component as animation experience is developed. And refined.

Pat was an outstanding example of the quality candidates attracted by the DA Intern program. She completed the Intern Program in 1994. Patricia DeNune was selected as a Department of the Army Intern.

She assisted the branch chief on site visits for a new playground at the Walter Reed Child Development Center (CDC). Completed numerous working drawings, plans, elevations and sections from the CDC standard designs. Coordinated the design with the customer and contractor. Reviewed all shop drawings.

DeNune is the Senior Architect for the design of hazardous waste storage facilities (Conforming Storage Facilities) for our Defense Logistics Agency customer. She has completed designs for Cherry Point and Camp Lejeune, NC, Tinker Air Force Base and Elmendorf AFB. This program requires extensive program management coordination with the customer and the ROINC offices at all the Navy Installations. Architect DeNune a former Seabee completed a life safety code analysis for Norfolk Naval Air Station's proposed waste facility.

Pat's contribution to the Ballistic Missile Defense Organization (BMDO) and National Missile Defense (NMD) continue to be noteworthy. Patricia DeNune is the Architect on BMDO's Missile Assembly Building and the Lead architect designing BMDO's Missile Assembly and EKV Refueling Facility. Completed drawings to 35% and designed a 3D computer animated model for presentation and visualization purposes for the Shemya Island deployment sites. Pat's management abilities were refined while coordinating with the Program Managers and the Design Contractor (Black & Veatch).

Technical Architect for the Uniformed Personnel Housing Barracks Upgrade Program. Patricia coordinates with numerous Army posts in ordering their selections of furniture, as well as fabric colors and art selection. Extensive management has been involved in solving problems with furniture contractors with problems with delivery and due dates. Have assisted in revising and coordinating specifications with our contracting department and our customers. Attended and coordinated the DOD Housing conference in Dallas, TX. 2000.

DeNune designed and created numerous 3D models of the Army's Physical Fitness Standards 2000 to assist our customers at headquarters to visualize the new proposed physical fitness facilities for both Korea and stateside. Also prepared several conceptual sketches of floor plans, elevations, as well as a standard life safety code analysis.

Pat is Huntsville's Lead Architect on American with Disabilities Act compliance reports. She completed a formal review, report, and site visit to DLA's Headquarters facility at FT. Belvoir, Va. to write a report itemizing the deficiencies not in compliance with the ADA standards of 1990. She was responsible for the front cover of the report and included numerous digital color pictures, along with the numerous descriptions of deficiencies. Pat has written a descriptive Scope of Work for the contractor to complete the work and included my findings from the site visit. Coordinated extensively with the contractor in ADA issues that were ambiguous to the customer such as lake access and mechanical area access.

Recently appointed Architect on the Marine Corp Range program. Reviewed design submittals for the Camp Pendleton and the Miramar range. Pat DeNune exemplifies the Artesian Architect. Pat exhibits her quilts (Scandinavian influence) at area art exhibits. DeNune's diligence has been recognized with the Group Service Performance Award on the UPH Program, 1999. Pat has graduated from the DA Leadership Development Program this year.

Marcus Searles is an integral part of the Civil-Structures Division, Engineering Directorate. Searles educational accomplishments and 5 years with Huntsville have resulted in Huntsville's retention of a leading design professional. Marcus has a leading design role in our major programs Chemical Demilitarization Sites. He is a graduate of Prairie View A&M University in Prairie View, Texas, with a Bachelor of Architecture, 1990. Architect Searles has developed expertise in Computer Drawing Applications 2D and 3D. Marcus Searles practicing knowledge of Microstation 2D, 3D, Project Layout has been a major contribution to the development of unique building types.

Searles is an outstanding example of the DA Intern program 1994-1995. His selection as a Department of the Army Intern reinforces the need for this program to attract young professionals.

The Architectural Branch has been the center of expertise for ChildCare Development. Marcus is the lead Architect for Child Development Centers Assisted the branch chief on site visits for a new playground at Child Development Center (CDC). Completed numerous working drawings, plans, elevations and sections from the CDC standard designs. Coordinated the design with the customer and contractor. Architect Searles is developing the standards for several ChildCare Development prototypes. Marcus Searles has developed into the expert on Child Development Centers.

Marcus Searles is the Senior Architect for Aberdeen Chemical Demilitarization. This program requires extensive program management coordination with the customer. Marcus earned his chem-demil expertise on Anniston, Newport, Pine Bluff, Umatilla, and Russia.

Marcus Searles contribution to the Ballistic Missile Defense Organization (BMDO) and National Missile Defense (NMD) continues to be noteworthy.

Unaccompanied Personnel Housing Barracks Upgrade Program. Team Architect responsible for the program management all of the Army's barracks furniture. Extensive management has been involved in solving problems with furniture contractors with problems with delivery and due dates. Continues to assist in revising and coordinating specifications with our contracting department and our customers.

Marcus is Huntsville's Lead Architect on Roofer. He has been instrumental in developing the Referral for Proposal to initiate this major roof analysis and repair program.

Architect Searles diligence has been recognized with the Group Service Performance Award on the UPH Program, 1999.

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TAKE CHARGE OF YOUR CAREERS

I am sure you may have seen or heard the news: many Upper Managers are very close to retirement age in the Corps of Engineers and other Government Agencies. There could be some excellent advancement opportunities in the next 3 to 5 years. All Agencies are being tasked to perform succession planning. Planning for future work has always been the strength of our agency, but now we are seeing trends to plan for the future in developing the next generation of managers and leaders. In a recent training class I attended, we had a session on “Take control of your career”. The main point of the session was our careers are ours to manage. We need to seek advice and input from our supervisors and managers so that they can assist us in our development.

I thought I would generally cover some of the items and tie in some of my own experience. Many younger professionals at the GS-11 and GS-12 grades do not think they need to work at their career development. Most may think it will just happen. If I work hard and do good work, I will get what I deserve. This was the old way of thinking, in today’s climate, this is not true for most people by a long shot. You can increase the potential for career advancement no matter what grade you are by taking charge of your career. As the senior positions are filled, vacancies will develop down the grade structure. You will need to make sure you have done whatever you can to give yourself that edge, because you are competing with the person in the other cubical and sometimes across your agency.

The first piece of advice is to develop a career plan. I have found breaking career planning into 3 phases to be very beneficial: the next 1 to 5 years, then the next 5 to 10 years, finally actualization of your career goal. This is not a one-time task. I have to re-evaluate this plan every year or make adjustments as my interests or goals change. One should talk to your supervisor about your career at a minimum. You also may want to obtain a mentor, or discuss your career with someone else in your organization that you trust and value. I like to discuss my career plans at my mid-point and final evaluation with my supervisor. Sometimes it is a very short discussion, but you want to keep thinking about your career plan. Take part of the time to talk about your career plan, goals, and how you are doing. Does your supervisor have any ideas on getting there or other suggestions? Does your current work load and type of work help you? If not, ask for a different type of work. This applies even at getting to the GS-12 level.

When I was a GS-11 engineer, the only work I was performing was military design. I worked in a District that had both a Military and Civil Works missions. I had been doing Military design work for approximately 5 years. I finally received my first Civil Works project after about 1 year of asking and talking to my supervisor. I felt I could now make myself more competitive for promotion with experience on Military and Civil type work. After approximately 18 months I got my promotion. It is very important that you do not let yourself be geared into the same type work over and over again.

Secondly, look for opportunities for career development within your District and across the Corps. Opportunities could be developmental assignments within your District, formal or informal training, outside activities involving community or professional societies, or transfers to other Branches or Divisions. The Corps of engineers offers periodically, opportunities with Long-Term Training and developmental assignments. The Leadership Development Program for GS-12 and GS-13 was an

excellent opportunity to obtain additional training and a rewarding work experience. These are excellent opportunities and should be considered, even though they may be a hardship for families. Consider these programs and if you are unable because of other obligations, look at what is required for these and maybe you and your supervisor could work out something to get part of what was required. It is very important to be proactive with your career.

As an example of informal training as a Section Chief, I arranged for four members of my staff to assist our Construction Division with a large civil works project on a rotational basis over an 8-month time frame. I would supply 1 person a month for the 8-month period. This gave design engineers an excellent opportunity to see their designs go through construction, what problems could develop with their plans and specifications, and see first hand their product come to life. The resident engineer, the four engineers, and I were all very satisfied with the experience. These type assignments can not happen all the time, but one must keep and eye open for opportunities

Finally involve your supervisor and manager in your career plans. It is part of every Supervisor's and Manager's duties to develop the young professionals who work for them. I find it very rewarding when one of my people is promoted either within our outside my group. As supervisors and managers we must balance our need for work accomplishment with that of employee development. As supervisors we sometimes get too concerned with getting the work completed. Many of us feel we are irreplaceable or that some of our employees are the only ones that can accomplish certain a task. Experience has shown me that the work will get completed even though it may have taken a little more effort.

Since starting with the Corps some 17 years ago, my career plan has changed several times. I have asked my supervisors for different assignments, training, type of work, or new jobs and have always been met with respect and concern. Not every request will be fulfilled, but you should at least get an explanation and then could develop a plan for accomplishment. It is very important that you "Take charge of your career, because it is your life".

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District of the Month

SACRAMENTO DISTRICT

The Sacramento District got its start in late 1800s, when debris from the historic California Gold Rush had filled and plugged the rivers in the valley of northern California. The District was first tasked with regulating the mining debris. Today the Sacramento District covers all or parts of eight western states and performs civil, military, HTRW, planning and real estate services. The district has an average annual budget of 500 million and has around 1150 employees. With more and more projects crossing district boundaries, Sacramento frequently partners with other districts in the South Pacific Division and other districts across the Corps as well. The regional business concept has opened up more efficient ways to serve our customers.

All through the year the Sacramento District has several programs in support of education and youth. The district sponsors "Engineer Head Start Day," where 80 students spend two days working in district jobs with volunteer sponsors. The District also has an annual Christmas party for children from a local

homeless shelter. Also many District personnel are involved with outreach and career days at local high and middle schools. One such effort recently involved taking some fifth grade students on a tour of a Corps levee construction site.

Outreaching to Our Future Engineers -- In 1990, the US Army Corps of Engineers implemented a levee-strengthening program to protect river cities from potential flooding. Corps work in and around the Sacramento area is unique, in that a majority of the work involves levee reinforcements of both the Sacramento and American Rivers, two rivers whose confluence is only minutes away from downtown Sacramento and whose impact upon the area is profound. Currently, one of the major projects within the Sacramento District is the American River Watershed Project, a project that consists of the installation of a 5.4 million square feet Soil-Cement-Bentonite (SCB) wall within the levees along the north and south banks of the American River.

To implement a slurry wall of this magnitude, a series of preliminary analyses were conducted. Based on subsurface explorations (drilling, sampling, SPTs and CPTs), possible pervious zones in the levee foundation and embankment were identified. This data was then evaluated using Fast SEEP, a flow net analyses program that measures the seepage of the levee. Armed with the knowledge of subsurface data and flownet modeling, the civil engineers designed the slurry wall extents and depths.



The students crowd in for their hard-hats.

After months of testing, the construction of the wall could begin. This project, whose completion must occur prior to the onset of the wet season, requires extended work hours and days. Though an intense amount of work has been compressed into a short timespan, the key personnel involved in this project have amazingly made time out of their busy schedules to invite some elementary school students, and potential future engineers, to a site visit.

and the contractor Geo-Con, Incorporated, welcomed approximately 30 fifth-grade students from the Leonardo da Vinci Magnet School in Sacramento. After learning about safety, the students toured the work site, where they saw a backhoe, longstick excavator, and other specialty equipment



Feeling the slurry mix.

needed to create the 50' to 70' deep slurry cutoff wall. The students then viewed a demonstration of backfill mixing, complemented with a discussion on the procedure of excavation, filling the trench with slurry, and backfilling to create the slurry wall that would strengthen the levee and protect the community from a flood.



Students at the 50 to 70 foot deep trench.

Finally, to measure the quality of the work done, the students conducted geotechnical work, running a myriad of tests to ensure the efficacy of the wall: filter press to determine the efficiency of permeability, slump test to

determine the workability of the backfill, mud balance for density, sand tube to measure volumetric sand content, and viscosity to measure, what else, viscosity.

After a hard day's work, the students were treated to pizza and soda, courtesy of Geo-Con, Inc.

Special thanks to John Sisley, Project Engineer, Eric Nagy, Civil Engineer, Michael Burgess, Construction Representative (on loan from San Francisco District), all of the US Army Corps of Engineers, Paul Devereaux of the American River Flood Control District, and Geo-Con, Inc. for taking time out of their schedules to arrange and conduct the tour.

Use Of Geographic Information Systems (GIS) For Installation Management - Many Corps of Engineer Districts are utilizing GIS to varying degrees and for a multitude of applications. One particular need that many of Sacramento District's (CESPK) MILCON customers' request assistance with is facility management of its space and maintenance requirements on their bases and installations. Due to a decrease in the number of MILCON projects being approved, use of existing space and operation/ maintenance efforts of current assets has become paramount. The assigned missions have not decreased to match this down turn in construction; in fact some have actually increased, causing bases/installations to utilize their existing assets to the maximum extent possible. GIS as a facility management tool greatly enhances the ability to track assets of all types graphically and non-graphically. GIS enables the user to make informed decisions and distribute the benefits of these decisions quickly and effectively to a wide audience.

The need for facility management GIS was realized due to space planning requirements and operation/maintenance tracking for existing facilities. Facility functions change based on mission needs. A facility manager may have vacant space and not realize it. A tenant may move out and not notify the manager. GIS enables the facility manager to track space and O&M projects graphically to provide quick visualization of current status of conditions. The process first involves creating detailed CAD drawings of building floor plans. These files are then converted into shapefiles for use in ArcView GIS.



Sample Output Results

This now enables the database to be easily attached to the shapefiles once these steps have been accomplished. ArcView GIS can now display a color-coded map that illustrates how a given area is being used. Database can be displayed in tabular format listing such things as: SF, Room Use, Occupant, equipment, and other information that is pertinent to the user. Queries can be performed such as "Show me all the space occupied by this tenant." The result will be displayed graphically

with database attached. Digital pictures can be linked to features in the shape files and displayed with a mouse click. Future planning scenarios can be developed for new mission needs. Information such as location of asbestos, warranty on equipment, utilities and other facility needs can be incorporated.

In response to this customer need CESPK has developed facility GIS for a variety of customers. Ft. Irwin facility GIS was developed for housing tracking. Sharpe and Tracy Defense Depots facility GIS

is used for tracking warehouse storage and operation and maintenance projects. CESPK also developed a facilities GIS for Camp Doha, Kuwait, to track all aspects of facility and utility usage as well as force protection buffers.

Parks Reserve Forces Training Area in Dublin, California, has a robust GIS that includes facilities information, environmental and natural resources and a comprehensive master plan. The master plan was developed in ArcView and in an HTML document that can be viewed at <http://aafes.spk.usace.army.mil/maps2/docs/v2000/parks/emp/index.htm>. Western Area Power Administration (WAPA) GIS was developed to track utility transmission and produce effective patrol maps for avoiding environmentally sensitive areas while providing maintenance crew access. California State University Monterey Bay is utilizing CESPK's GIS unit to establish a Campus GIS for facility and utility maintenance and eventually develop an ArcView based Master Plan.

The latest application for GIS has been through use of the Internet. Internet GIS software and projects are centrally loaded on a computer in a single location. Through the use of a free plug-in and a browser such as Netscape or Microsoft Explorer the end users can access the GIS project through the Internet without having to purchase GIS software for each computer. CESPK is currently developing projects for a variety of customers with this enterprise approach. An Internet GIS can be viewed by accessing the attached web page, downloading the plug-in and viewing the project. Selecting features and activating the report button will serve spreadsheets and database. Other electronic media such as HTML documents (see Parks RFTA in legend and double click on it), images, schematics and other media can be viewed. See <http://catapult.spk.usace.army.mil/gis/decahome.htm>

Points of contact concerning CESPK's GIS endeavors are Tom Sobolewski, GIS Unit Leader, 916-557-7419, and Jim Stapleton, Senior GIS Specialist, 916-557-7158.

Pine Flat Dam Tainter Gate Modifications Project - Pine Flat Dam is located 30 miles east of Fresno, California, nestled at the base of the Sierra Nevada mountain range. Each of the six tainter gates on the dam are 40 feet wide, 39 feet high, constructed of structural steel, and weigh approximately 60 tons. The gates regulate spillway flows over the dam.

The primary impetus for the evaluation and retrofit of Pine Flat Tainter gates was the tainter gate failure at Folsom Dam in California. On July 17 1995, several of the Tainter gate radial arms on one of the spillway gates at Folsom Dam buckled as it was being raised. For three weeks, the crippled gate hung on by a few steel members as 325,000 acre-feet of storage was lost. The Sacramento District stopped the flow with the placement of an emergency stop log structure, preventing the loss of an additional 100,000 acre-feet. A forensic evaluation concluded that the gate failure was caused by a combination of factors, including a design flaw (assumed frictionless bearings), rusty bolts and insufficient lubrication. Since then, a new gate has been installed and the other seven spillway gates have been strengthened at a cost of \$15.3 million.

The Pine Flat Dam tainter gate modifications project was determined to be necessary after thorough inspections and design reviews. With the use of computer structural analyses, a three-dimensional finite element model of the gates was created. This model indicated Pine Flat tainter gates contained design flaws similar to those at Folsom Dam. These flaws include design calculations that assumed the gate frame bearings were frictionless. Also, the bracing members between the tainter gate arms considered to be secondary, and not sized for any particular load. As a safety precaution, interim

operation measures and bearing lubrication requirements were put in place until the Pine Flat tainter dam gates could be retrofitted.

The project was accomplished in-house using a three dimensional finite element model/analysis, which resulted in an efficient bracing scheme for the gate frames. The plans and specifications package was advertised as a Request for Proposal (RFP), with Dillingham Construction being awarded a \$1.5 million contract. The nine-month construction of the project was completed in April 2000.



After Installation of Additional Bracing

Glenn-Colusa Irrigation District Phenomenal Fish Project - The Glenn-Colusa Irrigation District (GCID) riverbed gradient facility in the Sacramento River, California, was mandated by the Federal government in 1992 as part of a joint project with GCID, U.S. Bureau of Reclamation, and U.S. Army Corps of Engineers to protect fishery resources in the river, including the endangered Chinook salmon. The river gradient facility (GF) works in conjunction with the world's largest known linear fish screen, constructed by the Bureau of Reclamation, by maintaining a minimum water surface elevation and thereby keeping intake flow velocities at safe levels while providing sufficient water volumes to supply the GCID irrigation pumps.



GCID Under Construction - June 2000

The actual construction work started in early April of this year and all in-river work must be completed by October 31, 2000. Some of the riverbank and erosion control work will remain to be finished in November. Since the entire bottom of the river, for 1000 feet, must be lined with 3'-0" of rip rap stone to contract elevations, the contractor, J.E. McAmis, Inc. of Chico California, planned and proceeded with construction of a rock island equipment staging area in the middle of the river. Rock piers were built and rail cars placed to provide bridges to the island. By working from one bank and one side of the rock island at a time, the necessary excavation or fill and subsequent rock installation can be performed

without the use of barges. Also, the difficult to build fish depressions can be excavated and filled from these land surfaces.

The contractor is utilizing draglines and excavators to perform the excavation and fill work in the river. The draglines are useful for the long reach they provide. Other large equipment is being employed to construct features of the project that are up and downstream of the river bottom work such as the bank interfaces (similar to bank protection), toe trenches, rock dikes and the east side setback revetment trench. Crossing the river and an integral part of the GF, are two lines of sheet pile. The piles, which will prevent the GF rock from being washed downstream, will be driven across the river bottom, to top of rock grade, at two locations 500 feet apart. They will continue into the banks on both sides. A third pile line is at the downstream end of the GF on both banks - connecting to a toe trench in the river and, like the other two lines, connecting to the setback revetment trench on the east side.

There have already been numerous challenges faced by all parties involved in this project. While the contractor initially planned to close the entire river to boat traffic so that work could be performed on both sides of the island simultaneously, the Coast Guard required that the river remain navigable. Therefore, the contractor is allowed to only work on one side of the river at a time. Next, the bank swallows returned and the exposed, vertical riverbanks had to immediately be covered with plastic to prevent nesting near the project site. Protection of the Valley Longhorn Beetle by the Endangered Species Act has made it necessary to remove, from the construction area, and transplant many elderberry shrubs. (beetle habitat) Also, the counties through which materials are being hauled are requiring road repairs, which will be difficult to assess. Finally, the use of private property for access to the site has proved to be an ongoing learning process.

This is a unique project with involvement from several regulatory agencies and local public and private groups. With an emphasis on good coordination, the project will complete on schedule and provide resolution to a 10-year-old problem.

This Ain't Your Momma's – Safety Program - A pro-active safety awareness program is standard at the Sacramento District's Valley Resident Office. After winning the District Engineer's Safety Award for 1999, the Valley Resident Office continued to stress safety all-day, every day. Construction Representative Don Hamilton recently coordinated a full day defensive Driver Awareness Course for the Resident Office staff.

The training was held on two separate days, with half of the personnel attending each session. The training was conducted by the Marin County Sheriff's Department and held on the apron of the closed Hamilton Army Airfield, Novato, California. The training consisted of a short classroom phase followed by behind the wheel practical exercises using Sheriff's Department patrol vehicles.

Two or three team members were assigned to each vehicle and taught defensive driving skills such as quick lane changes, steering response and recovery, panic stopping and proper breaking procedures with anti-lock breaking system. The team members were then given the opportunity to develop these skills with several hours of practice time. The training concluded with presentation of course completion certificates, which qualified for automobile insurance premium reductions for several team members.

*POC'S: BRAIN DOYLE, CESPK-ED, 916-557-7623,
AND KAREN L. DURHAM-AGUILERA, CESPK-CO, 916-557-7701*

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Reorganization News

ENGINEERING AND CONSTRUCTION REORGANIZATION EFFECTIVE 16 JULY 2000

As this issue of the Engineering and Construction News is published, the reorganization is in full effect. You will see new office symbols in this issue. The new branch chiefs have taken over their duties and the two divisions are now one.

The move to the Kingman Building has been delayed. Baltimore District and Lawrence Delaney are working with the contractor to set a project completion date near the beginning of November 2000.

The themes of the next six issues of the Engineering and Construction News will feature the duties and functions of the new branches, the special assistants, the Value Engineer, and the Architect.

As more information on the move comes available, the information will be included in the News. The new Engineering and Construction Division is up and running. The other Headquarters elements will start their moves to the Government Accounting Office (GAO) Building on 3 August 2000.

POC: CHARLES PEARRE, CECW-EI, 202-761-4531

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Update

REGIONAL TECHNICAL FORUM

The Great Lakes and Ohio River Division just completed their first Regional Technical Forum (RTF), and judging by the feedback, it was a resounding success. The RTF is conducted by LRD once each quarter using their video tele-conference facilities and Microsoft NetMeeting. The inaugural session was attended by senior engineering and construction personnel from the Division office, the Chicago Center, and all seven districts. Future meetings will include additional staff level engineers as the program expands its focus on technical training.

The RTF was the idea of the Director, Military and Technical Directorate, and was established to:

- Improve technical execution of assigned programs,
- Improve vertical and horizontal communication,
- Effect technology transfer between districts,
- Share lessons learned among districts,
- Identify, discuss and assist in resolving complex technical problems,
- Insure levels of engineering investigation of project features are sufficient to produce high quality, safe, reliable, efficient, and economical projects that are practical to construct, operate, and maintain.
- Enhance technical core competencies through regional training.

The first meeting "large project" oriented and included presentations by district designers on innovative solutions at McArthur Lock in Detroit District (concrete refacing), Bluestone Dam in Huntington District (increased flood retention), Olmsted Lock in Louisville District (floating approach walls), and Kentucky Lock in Nashville District (downstream cofferdam). Open discussions followed each presentation. Attendees were encouraged to critique, as well as discuss, the technical aspects of the projects, not only to help the presenting district identify alternate approaches to unresolved problems, but also to insure attendees could duplicate good ideas in their own projects.

Future topics will include training on innovative contracting, applying the Military model on Simplified Design Methods to Civil Works projects, executing Design-Build contracts for Military and Civil Works, and the review of a host of other highly technical projects just completed, or under design, in the Division.

All attendees were issued certificates of attendance and two (2) Professional Development Hours (PDH's). PDH's are required by some states as evidence of continuing technical education for maintaining professional registration.

POC: LARRY SEALS, CELRD-ET-EW, 513-684-3034

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BONNEVILLE DAM JUVENILE FISH BYPASS IMPROVEMENTS PROJECT

The Bonneville Dam Juvenile Fish Bypass Improvements Project involves the rehabilitation of the facility's systems for safely bypassing migrating salmon. The \$62 million project focuses on the Bonneville Dam Second Powerhouse, and includes modifications to the internal piping and collection channel system, construction of a new bypass pipe and flume that delivers bypassed fish to a safe outfall area two miles downstream, and construction of a juvenile fish monitoring facility where biologists will evaluate fish conditions and assess Columbia-Snake river system survival.

Protection of the valued salmon runs--both upstream by adults and downstream by juveniles--has been a goal since designers first began work on Bonneville Lock and Dam in the early 1930s.

Downstream fish bypass is particularly complex at Bonneville owing to the layout: a lock, two powerhouses, and the spillway dam separated by three islands.

Beginning in the 1960s, the National Marine Fisheries Service and the Corps developed turbine intake screens to guide juvenile salmon away from turbine intakes and into pipes and channels. This system was named the Downstream Migrant System. Once collected, the fish flowed down a larger pipe to outfall conduits in the tailrace just below the dam.

In the early 1980s, a submerged traveling screen bypass system was included in the design and construction of the Second Powerhouse. Evaluations indicated that the bypass systems did not guide as many juvenile fish away from the turbines as expected, and contributed to increased juvenile injury and stress. At the same time, numerous juveniles were being eaten in the tailrace by the large concentrations of predators, primarily northern pike minnows (formerly called northern squawfish).

In 1995, the National Marine Fisheries Service issued a Biological Opinion concerning fish passage on the lower Columbia and Snake rivers. The Opinion, among other issues, called on the Corps to make reasonable and prudent actions to relocate the downstream outfall at Bonneville Second Powerhouse by 1999, provide advanced monitoring facilities for juveniles, and improve hydraulic conditions in the bypass system by 2000. Equipment modifications and other fish passage methods were included in the Biological Opinion.

In the old system, juvenile fish were directed by submerged screens into bulkhead slots. Fish then passed through lighted orifices into a collection channel, and then into a dewatering section that concentrated the fish in a smaller area for further movement through the system. The next stop was into a downstream migrant discharge well, then into the outfall conduit or into a sampling unit. The primary failure of the old system occurred in the collection channel and dewatering system, where low water velocities often caused fish to hold (cease forward movement).

Modifications inside the Second Powerhouse include the addition of water volume, taken from Units 12 and 13, to immediately increase system velocities in the upstream end of the existing collection channel. Orifices were increased in diameter from 305 millimeters (mm) to 330mm to provide additional flow to the collection channel. A new exit conduit was mined through the powerhouse to carry fish from the dewatering facility to the new transportation flume, replacing the old downwell and outfall pipes.

The new transportation flume represents a major part of the fish bypass rehabilitation. The flume is a 4-foot diameter pipe made of high-density polyethylene (HDPE) and extends two miles downriver

along the Washington shoreline. The flume passes by a state-of-the-art fish monitoring facility, then reenters the river, connecting to either a low water or a high-water outfall structure, depending on the depth of the river at the time. (The Columbia River below Bonneville Dam varies in level by as much as 30 feet during the year.)

Juvenile fish leave the flume at the outfall structure into deep, fast moving water. Northern pike minnows do not feed efficiently in fast-moving water. Additional predator controls at the outfall include metal streamers tied to floats and spray from high-powered water sprinklers that deter feeding gulls.

The hydraulic conditions in the flume are precisely controlled. The flume, which is buried throughout most of its length, remains about half-full of water, with the velocity of approximately five feet per second, with minimal acceleration or deceleration that could cause fish to hold in the flume. The time required for an inanimate particle to be carried down the flume is about 35 minutes. Juvenile chinook salmon are taking 40 to 45 minutes to make the trip. Steelhead traverse the flume in about 60 minutes.

The bypass system became operational in March 1999. Preliminary testing suggests that fish are sustaining virtually no injuries during the passage.

The monitoring facility became operational in March 2000. It significantly increases the amount of information available about downstream migrating salmon from throughout the Columbia-Snake river systems. Juvenile fish can be diverted into the facility on either a timed sample basis or by selecting fish with PIT (passive integrated transponder) tags. The PIT tagged-fish are of special interest to researchers because the tags identify where the fish came from and how long they have been in the river. Blood samples taken from the tagged fish will indicate stress levels.

Construction of the outfalls was especially challenging. There are six 10-foot diameter piers; two rows of three piers support high and low water outfalls at the end of the flume. The first pier in each row is close to shore, the last about 350 feet out in the river. The longest piers are over 205 feet long.

Where the last piers are placed, the river is more than 75 feet deep. The piers extend down into the soil of the river bottom more than 100 feet and are socketed into bedrock a minimum of 10 feet.

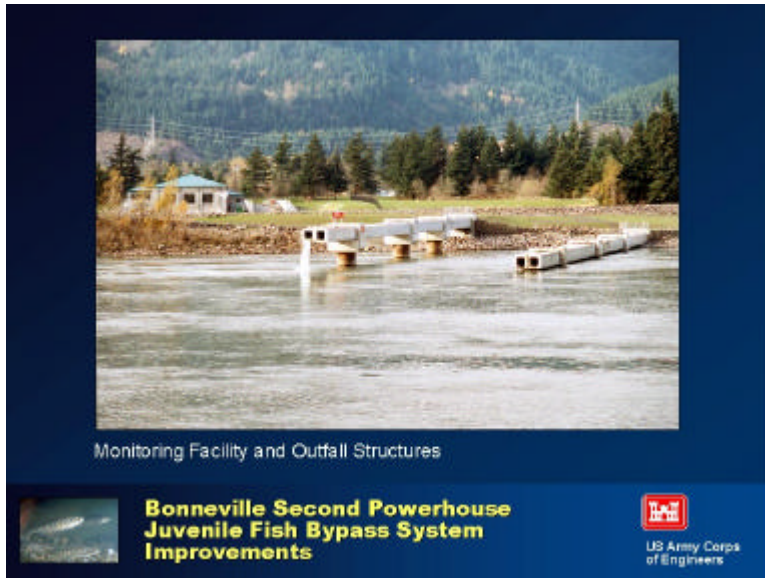
There were many steps in the construction process. Rather than work from a floating platform, the contractor chose to build a \$2+ million work platform above the water. Then, the crews installed "templates"-- frameworks to use as guides so that each steel pier casing would be placed accurately. The pier casings were swung off a barge, moved through the template, and lowered until they were embedded about 20 feet into the river bottom.

Once the steel pier casings were in place, the largest vibratory hammer ever made in the U.S. (Tandem APE Model 400s, nicknamed King Kong) vibrated the casings, moving them through the soil on the river bottom until they reached the top of bedrock. Several different types of excavation tools, including flight augers and buckets were used to remove the soil from inside the casings. Rock core barrels drilled the rock sockets to securely seat the casings.

When the excavation was finished, rebar cages were fabricated and installed inside each casing. On this project, rebar was tied into huge, intricately fitted, cages that looked like columns. The cages, formed of bundled 2 1/4-inch diameter (#18) rebar, each weighed up to 100 tons. Each rebar cage was fabricated horizontally on a nearby barge, then delicately lifted into a vertical position and lowered into

a casing. Concrete was then placed into the casings to make the piers strong enough to support the outfalls and withstand the force of the Columbia River.

Cast-in-place concrete crossheads and precast, post-tensioned box girders were placed to complete the superstructure for the outfalls.



The Prime Contract for the outfall structures was awarded to General Construction Co. of Poulsbo, Washington. The bypass portion of the project was constructed by Balfour Beatty Construction, Inc. of Vallejo, California. Partnering was successfully used with both construction contracts to minimize cost growth, eliminate disputes and complete the work three months earlier than originally scheduled. The Partnering process involved all stakeholders in the project, including contractors, subcontractors, construction, engineering, operations, A/Es and environmental team members.

The project has been recognized with awards for Design Excellence by The Seattle Post of the Society of American Military Engineers (SAME), for Project of the Year by the Consulting Engineers Council of Oregon (CECO) and for the Marvin M. Black Excellence in Partnering Award by the Associated General Contractors (AGC).

In addition, the project received awards for Excellence in Concrete from the Oregon Concrete and Aggregate Producers Association and Excellence in Concrete Construction from the Washington Aggregates and Concrete Association.

POC: BOB COUCH, CENWP-EC-C, 503-808-4420

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CADD/GIS TECHNOLOGY SYMPOSIUM & EXPOSITION 2000

The CADD/GIS Technology Symposium, held 23-25 May at the Adam's Mark Hotel in St. Louis, Missouri, was a great success. The theme for the Symposium was "Integrating Technology." Over 1100 people attended, including 403 Corps personnel. There were 102 exhibit booths provided by 88 vendors and seven government agencies. The Corps of Engineers provided four of the Government booths. Plenary sessions focused on future developments as well as current usages of new technology in remote sensing, web mapping, 3-D object-based CAD, and project web sites. There was a Corps breakout session for personnel attending on Tuesday. The Corps Field Action CADD (FAC) Groups provided one of the Corps booths where they displayed district projects, which use CADD and GIS technology effectively. They also distributed SAC/FAC mouse pads and brochures describing the purpose and make-up of the Senior Advisory CADD (SAC) and FAC Groups. The long-awaited A/E/C Standard CD, which contained Release 1.8 of the Standard document and Release 1.4 of the MicroStation Workspace was introduced and handed out at the Symposium. Coast Guard and Center personnel demonstrated a working prototype of the AutoCAD Workspace, in the Center booth. These

two Workspaces generated enthusiastic support as a step toward implementing the A/E/C CADD Standard.

POC: JEAN MCGINN, CECW-EE, 202-761-1052

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HARD WORK PAYS OFF ON RMS WINDOWS DEPLOYMENT IN USACE

Congratulations to MSC and district construction staffs and their partners! Last year, MG Fuhrman, Deputy Commanding General of USACE laid out his direction to "get RMS deployed all across USACE by June 2000." We are pleased to report to MG Fuhrman and you that, as of 30 June, the Resident Management System is now fielded within nearly every district, with most districts being at FOC - Full Operating Capability.

This journey has not been easy, but through your combined efforts and support of the RMS Center staff, this big, important milestone has been effectively achieved. Likewise, we want to thank all the Processing Center and information management team members at all levels for the great support they provided in bringing computer hardware, software, training, communications, configurations, passwords, and lots of other things online to allow districts to "get operational". We couldn't have done it without your support!

So now you ask, "what's next?" The answer is "plenty!" RMS brings modern, standardized construction management system support across USACE for the first time in our history. However we now need to 'depart from the beachhead' of initial deployment to move up and out with full use of RMS's capabilities to help your project delivery teams to work more effectively and efficiently in delivering quality projects to our customers. This is the real "payoff" that we are looking for-- achieving it will require as much focus and follow through by each of us as did initial deployment.

There are also answers to the "what's next" question on RMS itself. The next release of RMS will occur later in July. It will have the interface capability with PROMIS. This will provide quick, reliable information to project managers and other managers as to the latest CWEs, contract progress, modification delay codes and status narratives. A later PROMIS software release, planned for August, will display the details of change requests, modifications, features of work and other information provided from RMS to the whole project delivery team.

The upcoming RMS release will also provide these additional functions:

- a construction placement projection module which will produce monthly schedules for contracts and assist with forecasting construction earnings in the district.
- enhanced RMS access/user controls which allow managers to determine who can access and read or write to specific contracts, and modules within those contracts.
- various form letters frequently used for contract administration; these can be adjusted to meet specific district requirements. Correspondence tracking capabilities will also be part of this module.
- changes to QA screens to prepare for fielding of the RMS Contractor QC version later this summer (see details below).
- interface with SPS/PD2, which will enable automated processing of contract modifications and downloading of construction contract awards from SPS/PD2 to RMS.

Later this summer, a RMS release will provide the much-awaited Contractor Module (RMS-QC), and enhancements for foreign currency use in overseas districts. This is being built around a Microsoft ACCESS database and will allow for extensive electronic exchange of information between the

USACE field office and the construction contractor. This release will also allow submittal register import from SPECSINTACT.

RMS releases later this calendar year will provide additional reports, both standard and customized; support local libraries of data and procedures; and provide a stand-alone Quality Assurance Module. This latter item will enable construction personnel at remote sites to enter and use non-financial data for everyday construction QA tasks without having to connect to the district database. Data exchanges with the district database can be made whenever practical.

To assist users with RMS, the draft RMS Users Guide and a 'RMS QuickStart Guide' are posted on the RMS Website at <http://winrms.usace.army.mil>. Other useful information regarding future releases, training and other RMS-related items are also available there. The site is updated regularly, so we recommend frequent visits, e.g., 3-4 times a month by Deployment Managers and other interested users. In case of questions or assistance not available on the Website, contact your district trainers or district/MSR RMS deployment manager. The RMS Center at (760) 247-0217 also stands ready to help you with the special problems, needs, or suggestions.

The good news is RMS is now deployed at nearly all district and field offices. The bad news is that we still have lots of work to do to capture the full benefits and grow with the system. The real good news is that we are confident that you all are up to the challenge!

POC: KARL KLONOWSKI, CECW-EE, 202-761-0645

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Dam Safety

DAM SAFETY 2000

Make plans to attend the 17th Annual Conference of the Association of State Dam Safety Officials. Dam Safety 2000, which features a brand new schedule of events, will be held at the Westin Providence and the adjoining Rhode Island Convention Center, 25-30 September 2000.

A technical seminar on Stability Analysis will be presented on Monday and Tuesday (September 25 and 26). The Corps of Engineers Dam Safety Coordinators Conference will start after the seminar on Tuesday, September 26, and continued on Wednesday, September 27. The ASDSO conference will open on Thursday, September 28 with General and Technical Sessions. The conference will continue through Saturday, September 30.

For more information call Susan Sorrell at ASDSO (859) 357-5146 for details. Or send an email to sasorrell@damsafety.org. Or visit the ASDSO homepage at <http://www.damsafety.org>. Registration materials will be mailed to all ASDSO members in the near future.

POC: ROBERT BANK, CECW-EW, 202-761-1660

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Information

BUNKER HILL EVENTS

On 11 Jun 00, New England District's deputy commander participated in a community parade celebrating the Battle of Bunker Hill in Charlestown, Massachusetts. This event marked its 225th anniversary and the births of the U.S. Army and the Corps of Engineers. The District provided a color guard of Park Rangers. All six New England governors proclaimed 16 Jun "U.S. Army Corps of Engineers Day." On 17 Jun, the New England District commander participated in another celebration in Charlestown, Massachusetts commemorating the Battle. Following an Ecumenical Service, he spoke at the Commemorative and Patriotic Exercises. Later that day laid a wreath at the grave of COL Richard Gridley located in Canton, Massachusetts. COL Gridley was the Army's first Chief Engineer, and supervised the fortification of Bunker Hill.

POC: KENNETH HITCH, CENAE-EP, 978-318-8500

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CURRENT VACANCY ANNOUNCEMENTS

The Honolulu District and the Mobile District currently are advertising to fill GS-14 positions. The Honolulu District is seeking a Resident Engineer for their office at the Tripler Army Medical Center, Hawaii. The Mobile District is seeking an Assistant Chief, Construction Division/Chief Management Branch in their Construction Division in Mobile Alabama. Both of these positions are GS-14 supervisory positions. Additional information and a copy of the announcement can be obtained from <http://www.cpol.army.mil>. The Honolulu announcement number is 53EW014584. The Mobile District announcement has two numbers, which are GU-00-122A and GU-00-122B.

Specific questions on the positions should be addressed to the points of contact listed below.

*POC'S: GEORGE R. PRICE, CESAD-ET-C, 404-562-5125,
AND LOUIS MUZZARINI, CEPOH-EC-C, 808-438-9050*

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OUTSTANDING CAREER AND CULTURAL OPPORTUNITY

Pacific Ocean Division's Japan Engineer District (CEPOJ) offers a unique career and cultural opportunity for a GS-12 Mechanical Engineer in the Quality Assurance (QA) Section, Engineering & Construction Division at CEPOJ headquarters in Camp Zama, Japan.

CEPOJ's workload includes U.S. and Host Nation funded design and construction for approximately 90 Installations throughout Japan and Okinawa. The Host Nation work includes a massive Japan Facilities Improvement Program (JFIP) as well as a large program termed SACO, on Okinawa. SACO stands for Special Action Committee Okinawa. There is probably not another construction program like JFIP in the world. Our field offices oversee U.S. funded placement averaging about \$40 - \$50 Million and Host Nation funded placement averaging about \$800 Million annually. Construction management is performed by six CEPOJ field offices in Japan and a large Area Office in Okinawa. Field offices in Japan are located at U.S. Army, Air Force, Navy, and Marine Corps Installations at Misawa, Yokota, Camp Zama, Yokosuka, Iwakuni, and Sasebo.

The QA Section's mission is to perform BCOE review of plans and specifications, review shop

drawings and submittals, provide clarification of ambiguities in contract documents, perform onsite Construction Management Evaluations of field offices, and provide onsite technical expertise and quality verification training to field offices. A mechanical engineer in QA Section can expect to be on 2 – 5 day TDY to locations throughout Japan and Okinawa approximately 8 - 10 times per year. CEPOJ provides the opportunity of a lifetime for Engineering and Construction personnel and their families. It's one of the Corps' best kept secrets.

Camp Zama is a fairly small Installation by Army standards and is located approximately 35 miles southwest of Tokyo. It's the home of the HQ U.S. Army, Japan and the 78th Area Support Group. Camp Zama is in an urban area with walking access to a train line linking it to trains and subway systems throughout Japan. The climate in this part of Japan is similar to that of eastern North Carolina, with warm summers and mild winters.

Japan is actually a sparsely populated country, with most of the landscape comprised of mountains and woodlands. Where flat, habitable terrain occurs, the population is dense.

Living conditions on the military Installations are similar to those in most American cities. Most housing is new or fairly new and facilities at all Installations are being continuously upgraded as part of the massive Host Nation program funded by the Japanese Government.

Quality of life throughout Japan and Okinawa is excellent and includes free on-base housing and utilities or adequate Living Quarters Allowance for those living off post. Employees receive a tax-free Cost of Living Allowance (COLA) and enjoy full U.S. Postal Service, on base medical and dental service, base exchange and commissary privileges, gymnasiums, U.S. schools from K-12, churches, and virtually all of the comforts of home. The Installations have a variety of places for dining out, from fast food to full service dining and there are many reasonably priced restaurants off base.

Japan and Okinawa have very low crime rates as compared with the United States. Personal safety is one of the great benefits for employees and their family members. For golfers, the Installations have excellent golf courses with annual memberships generally about \$200 and members do not pay a greens fee. It's nice having a golf course right on the Installation where you live. For spouses, there's an excellent opportunity to earn very good money teaching conversational English to Japanese students. No degree is required and you can do it right in your home. All in all, there are great many benefits to a three-year tour of duty in CEPOJ. Tour extensions to five years are possible.

Hopefully this brief picture of Japan Engineer District has encouraged you to find out more about this unique opportunity. Our CPOC personnel office is located in Anchorage, Alaska and uses the Resumix system for taking applications. Job announcements are posted in the Army Personnel websites. If you are a technically competent, self-starting, team oriented individual and have questions or concerns you'd like answered, please contact Mr. Don Bleibtrey, Chief, Construction Branch, or Mr. Stuart (Stu) Houck, Chief, Engineering and Construction Division, CEPOJ, via fax at 011-81-3117-63-3868, by Corps of Engineers e-mail, or by phone. Phone numbers for the office are 011-81-3117-63-4883 for Don and 011-81-3117-63-3373 for Stu. Look us up on the USACE email address book or use our email addresses: donald.j.bleibtrey@poj.usace.army.mil and stuart.d.houck@poj.usace.army.mil.

POC: DON BLEIBTREY, CEPOJ-EC-C, 01181-3117-63-4883

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Training

STABILITY ANALYSIS

The Association of State Dam Safety Officials will conduct a two-day technical training seminar on "Stability Analysis" on September 25 and 26, 2000, in Providence, Rhode Island. This seminar is being conducted in conjunction with Dam Safety 2000, the ASDSO Annual Conference.

For more information on the seminar go to the ASDSO web site at <http://www.damsafety.org>. Or telephone Susan Sorrell at (859) 257-5146 for additional information.

POC: CHARLES PEARRE, CECW-EI, 202-761-4531

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Value Engineering

CORPS VALUE ENGINEERING (VE) FEATURED INTERNATIONALLY

Masseurs. Michael Holt and Jeff Hooghouse represented Corps Headquarters at the June 2000 SAVE International Conference. They jointly presented the Corps VE/VM Program on behalf of Department of Defense, and Mr. Holt was the primary participant in the Environmental Round Table, hosted by Hungarian representatives. Ms. Patsy Thomasson, Deputy Assistant Secretary of State, for Foreign Buildings Operations, featured Corps VE work in the opening Keynote speech, and the luncheon keynote speaker from Saudi Arabia thanked the Corps of Engineers specifically, for information used in his successful book on VE. The conference included VE professionals from 14 countries of the 30-plus who have representative members of SAVE. Countries attending included Australia, Canada, Germany, Hong Kong, Hungary, India, Italy, Japan, Malaysia, China, Korea, Saudi Arabia, the United Kingdom, and the United States.

POC: MICHAEL HOLT, CECW-EV, 202-761-8738

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HUNGARIAN VALUE ENGINEERING (VE) INTEREST

Representatives of the Hungarian Ministry of Environment, Dunaujvaros Polytechnic University, and private sector Hungarian Value Engineering professionals expressed a renewed wish for a joint Corps/Hungarian VE/VM effort in Hungary. The wish was expressed at a special Environmental Round Table discussion at the recent SAVE International Conference. Mr. Michael Holt committed to continue discussions toward potential cooperation.

POC: MICHAEL HOLT, CECW-EV, 202-761-8738

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BARRACKS MID-PROGRAM REVIEW VALUE MANAGEMENT

Major General Hunter signed EC 1110-1-92, dated 21 June 2000. This is only one of many VE/VM proposals expected to be implemented by a partnership of ACSIM and the Corps. This single document offers over 20% in future barracks cost avoidance, by allowing use of applicable Building and Life Safety Codes (Uniform Building Code and NFPA 101 Life Safety Code). USACE-managed barracks costs have exceeded DoD authorized cost caps in the past. Cost estimates indicate that this

change will enable future costs to be within DoD caps, while allowing additional expenditures for soldier-preferred quality-of-life enhancements, sustainable design, and force protection.

POC: MICHAEL HOLT, CECW-EV, 202-761-8738

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Architect's Forum

PUBLIC ARCHITECTS HOLD THEIR FIRST ANNUAL TRAINING WORKSHOP IN PHILADELPHIA

The Public Architects held their first annual training workshop at the National Convention of the American Institute of Architects (AIA) on May 3, 2000. The workshop was very well attended, with 200 attendees, by all levels of government.

AIA Philadelphia Chapter President Richard Bartholomew, FAIA, AICP, welcomed Public Architects. Mr. Bartholomew's welcome was followed by an inspiring keynote address by Mr. Alan Hantman, Architect of the Capitol.

Mr. Hantman spoke of his experience as Vice President of Facilities Planning and Architecture for the Rockefeller Center Management Corporation of New York City and as Architect of the Capitol. He discussed the opportunities and challenges of being a facilities manager in one of the most difficult positions that an architect could hold. Mr. Hantman is the 10th Architect of the Capitol, following in the footsteps of Dr. William Thornton, Benjamin H. Latrobe, Charles Bullfinch, Thomas U. Walter, and George M. White.

The Architect of the Capitol is charged with the operation and maintenance of the buildings committed to his care by Congress. The Architect's duties include the mechanical and structural maintenance of the building, the upkeep and improvement of the Capitol grounds, and the arrangement of inaugural and other ceremonies held in the building or on the grounds. In addition, the Architect is responsible for the upkeep of all of the congressional office buildings, the Library of Congress buildings, the United States Supreme Court building, the Federal Judiciary Building, the Capitol Power Plant, the Capitol Police headquarters, the Robert A. Taft Memorial, and the United States Botanic Garden.

The Architect of the Capitol must satisfy the needs and desires of 9 Supreme Court Justices and 535 members of the House and Senate. He serves on numerous boards and commissions where he influences design excellence in our Nation's Capital.

The workshop had three morning breakout sessions and three afternoon sessions that were punctuated by a stimulating afternoon keynote address by Hillary Levitt-Altman, Assoc. AIA on Livable Communities for America's Future and the Public Sector.

Ms. Levitt-Altman, an urban designer has spearheaded the General Services Administration's (GSA) livable communities efforts for three years and is director of the Urban Design and Livability Center. The mission of the Center for Urban Development and Livability is to leverage GSA's federal real estate actions in ways that bolster community efforts to encourage smart growth, economic vitality, and cultural vibrancy. The Center's goal is to support GSA's contribution to local livability efforts. GSA is doing this through partnerships that help GSA work more closely with their clients, communities, and private sector partners.

Ms Levitt-Altman discussed GSA's partnerships with such communities as Denver, Fort Worth, and Washington D.C. At Washington's Navy Yard and Southeast Federal Center, GSA is working with the neighborhood communities and federal agencies to provide neighborhood access to Washington's waterfront. In Fort Worth, GSA is helping to develop downtown Public Square. In Denver, GSA is working to bring back life and vibrancy to the Denver Federal Center. GSA's Center for Urban Development and Livability will be featured in a future edition of the *Corner Stone*.

The breakout sessions addressed Procurement, Commissioning, Internet Collaboration and Project Management, Adapting Public Spaces to Security Threats, Sustainable Design, and Real Estate Asset Management.

The Procurement session addressed new and emerging project delivery methods. The U.S. Department of Defense is using design-build in the renovation of the Pentagon, the world's largest office building. On the other hand, the National Institutes of Health is using a developed/manager concept to deliver critical biomedical research laboratory facilities.

The Commissioning session addressed a comprehensive and systematic process to verify that the installed systems of a new or an existing building perform as designed to meet the owner's requirements. The session provided a comprehensive background on the commissioning process as well as focusing on design-phased activities and the critical importance of commissioning for green building projects.

The Internet Collaboration and Project Management session focused on current and in-development processes, technologies, and team partnerships designed for competitive advantage and quality of life issues. WEB-based project management, CAD technology, GIS, and Silicon Valley's smart permitting project were among the topics discussed.

The Greening of the Public Sector session featured a panel discussion on sustainable design with active participation from the audience. The National Park Service discussed the Zion Transportation System at the Zion National Park in Utah. This is a cooperative effort involving Zion National Park, the Town of Springdale, the Zion Natural History Association, the State of Utah, and local citizens and businesses.

This effort is focused on removing traffic congestion and protecting resources by taking cars off the road and replacing them with shuttle vehicles. A new Visitor Transportation Center will open its doors in the spring of 2000. The transportation system will consist of two loops—an 8.6-mile park loop and a 3.3-mile town loop. The new Transportation Visitors Center will be the connecting point of the two loops. The Zion Transportation System Sustainable Practices on the Macro Level includes: constructing less within the park; developing within disturbed areas; partnering and collaborating on resources, reducing vehicle use in the park and town, and using propane as an alternative fuel.

Sustainable Resources on the Micro Level includes: reduced building construction; indigenous building materials and practices, preserving existing trees; passive outdoor cooling; impervious pavement; passive heating and cooling; daylighting, photovoltaic panels; and water harvesting and sustainable practice interpretation. The State of Pennsylvania and the U. S. Air Force also participated in this panel discussion.

The Real Estate Asset Management session was an interactive educational forum for public architects at all government levels. The session allowed them to share their experiences, identify common challenges, and share their solutions with other public architects concerning capital programs and capital budget planning.

The Adapting Public Spaces to Security Threats featured a video of a presentation by Senator Daniel P. Moynihan on security issues. The GSA, the Army Corps of Engineers, and the Air Force discussed their security issues and concerns

What a way to end the workshop! AIA's Thomas Jefferson Award Winner Jay Chatterjee, FAICP, and Dean of the College of Design, Architecture, Art and Planning, University of Cincinnati treated the Public Architects to a magnificent presentation. Mr. Chatterjee is responsible for implementing the master plan for the University of Cincinnati that has resulted in reclaiming the human scale and lost green space - with grassy lawns, trees, fountains, plazas, benches, amphitheaters. The plan has been key in recreating the campus for the next millennium.

Mr. Chatterjee is responsible for bringing about an excellent array of architecture to the University of Cincinnati such as: the Aronoff Center for Design and Art, designed by architect Peter Eisenman; the Vontz Center for Molecular Studies designed by Frank Gehry; the Engineering Research Center designed by Michael Graves; the College Conservatory of Music, designed by Henry Cobb; and the Vera Clement Edwards Center by architect David Childs of SOM.

The Public Architects PIA thanks Mr. Lawrence Delaney, AIA, Chief Architect, U.S. Corps of Engineers for chairing the 2000 Public Architects Public Architects Training Workshop Planning Committee.

Special thanks to the members of the committee, Michael A. Fitts, FAIA, State Architect Tennessee; Leslie L. Shepard, AIA, Deputy Chief Architect, GSA; Rick Sinkfield, Staff Architect, U.S. Air Force; Kenneth A. Scalf, AIA, Assistant State Architect, Tennessee; Stan L. Bowman, Director, State and Local Affairs, Government Affairs, AIA; C.D. Pangallo, ED.D Director, Center for Diversified Services, AIA.

The Public Architects PIA would also like to thank the following individuals who assisted in the planning of the workshop: James L. Binkley, FAIA; Subrata Basu, AIA, AICP; Thomas Lollini, FAIA; Michael L. Katzin, AIA; Terrel M. Emmons, FAIA; and Ricardo C. Herring, AIA.

Good luck and best wishes to Kenneth A. Scalf, AIA in planning the 2001 Public Architects Workshop in Denver.

(Ricardo C. Herring, AIA, Editor, Corner Stone wrote this article, May 2000.)

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Open Discussion and Comments

SEEPAGE/STABILITY CORRECTION PROGRAM

Question: As per EC 11-2-179, there is a new Construction General Dam Safety and Seepage/Stability Correction Program. Does this mean that stability issue at our project is now under the Dam

Safety Assurance Program? At our next meeting we will be asking if we need to write a Major Rehabilitation Evaluation Report or a Dam Safety Assurance Evaluation Report for the static stability issue at the project. We can not determine what is required at this time.

Response: In EC 11-2-179 there are three specific discussions that are not too clear on the surface. These items follow:

1) The Dam Safety Assurance Program is limited to hydraulic and seismic deficiencies. The Corps Dam Safety Officer is the approving official on these reports. Once approved and once notice is furnished to ASA(CW), the projects can be included in the budget process. The cost sharing is 15% of standard cost sharing.

2) The Major Rehabilitation Program is for all other modifications to Corps projects where the costs is greater than the amount stated in EC 11-2-179 and where the construction will take two or more construction seasons. (Note: If the work can be done in less than two construction seasons, it can be funded out of O&M General regardless of costs. That is if the District/Division can find enough O&M funds.) The Chief of Operations and Readiness Division is the approving official on these reports. Once approved and once notice is furnished to ASA (CW), the projects can be included in the budget process. The standard cost sharing is used on these projects.

- Seepage/Stability Correction Program is a subset of the Major Rehabilitation Program.

3) Advanced construction funding of safety of dams modifications (or Wedge funding) reappears in EC 11-2-179 and includes a new CG Dam Safety and Seepage/Stability Correction Program. There are two parts to this program both of which required approved evaluation reports.

- For Dam Safety Assurance Program projects, the Corps Dam Safety Officer will notify ASA(CW) that funds for the Wedge funding line item are being made available to the project and that the project is a current year construction new start. The seismic modifications to Clemson Dike at Hartwell Lake fall into this category and a notice of funding will be sent to ASA(CW) as soon as FY2001 starts and appropriations are received.

- For Seepage/Stability Correction Program projects, the Corps Dam Safety Officer will write ASA(CW) requesting permission to use Wedge funds for starting a project modification for which a Major Rehabilitation Evaluation Report has already been approved. ASA(CW) must approve the use of the Wedge funds in this case and provide a written notice of approval to the Corps. The Dam Safety Officer's request must provide justification for not using the budget process based on public safety. The seepage modifications to West Hill Dam, MA, fall into this category and a request will be sent to ASA(CW) as soon as FY2001 starts and appropriations are received.

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(Editors' note: If you want to share your thoughts with our readers regarding a subject of general interest, send an email to the E&C News editor at charles.pearre@usace.army.mil. A synopsis of your comments will be published next time).

Editors' Notes

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